

AMENDMENTS TO THE SPECIFICATION:

Please amend the specification as follows.

The paragraph starting at page 2, line 7 and ending at line 13 has been amended as follows.

~~In~~ The trend in recent years, years has been to reduce the depth of televisions ~~are being decreased in depth,~~ and flat type televisions ~~are~~ have become available. This flat type television must be made as thin as possible, and must be light in weight. In a television of this type, therefore, an image display and a terminal for supplying display information to the image display ~~are comprised of~~ have separate housings.

The paragraph starting at page 2, line 14 and ending at line 17 has been amended as follows.

In the conventional flat type television of this type and the like, ~~a pair of an~~ image display and ~~a~~ terminal form one television receiver. For example, one terminal can be connected to only one kind of image display.

The paragraph starting at page 2, line 21 and ending at line 25 has been amended as follows.

The image display and terminal, ~~a pair of which~~ paired to form one television receiver, basically ~~independently~~ operate independently. As a matter of course,

the image display and terminal may be manufactured at different ~~time~~ times, or only one of them may be exchanged.

The paragraph starting at page 2, line 26 and ending at page 3, line 5 has been amended as follows.

The image display and terminal may be manufactured with a large time difference or undergo minor changes. In this case, the image display and terminal may have different ~~operation~~ operating specifications. The image display and terminal used in this ~~state cannot get any merit~~ situation cannot take full advantage of the advantages or improvements in each piece of equipment.

The paragraph starting at page 3, line 11 and ending at line 13 has been amended as follows.

This problem also arises when the image display is to be exchanged with one ~~of~~ from a different manufacturer, or of a different size, and or having a different display method.

The paragraph starting at page 3, line 16 and ending at line 22 has been amended as follows.

It is an object of the present invention to provide an image display control system having a supply source for transmitting a signal including at least a video signal, and an image display for receiving a signal from the supply source and displaying a

corresponding image, in which one supply source ~~enables to~~ can connect to various kinds of image displays.

The paragraph starting at page 3, line 26 and ending at page 4, line 2 has been amended as follows.

It is still another object of the present invention to ~~provide~~ allow for easy changes of the specifications and version of the control program of the image display.

The paragraph starting at page 15, line 20 and ending at page 16, line 3 has been amended as follows.

Fig. 1 is a view for explaining the basic arrangement according to the first embodiment of the present invention. In Fig. 1, reference numeral 1 denotes an image display which has a wall-mounted thin structure in this embodiment; and reference numeral 2, a terminal which outputs display data and acoustic data to the image display 1 in accordance with synchronous bidirectional serial data (to be described later), and ~~comprises~~ includes a tuner for receiving a television program, as will be described later.

The paragraph starting at page 16, line 4 and ending at line 8 has been amended as follows.

Reference numeral 3 denotes a video cassette recorder serving as a supply source of an image and acoustic signal to the terminal 2; reference numeral 4, an LD/DVD

player for playing back a laser disk or DVD disk; and reference numeral 5, an STB for receiving and selecting a digital program.

The paragraph starting at page 16, line 19 and ending at line 23 has been amended as follows.

The ~~described~~ specific arrangements of the image display 1 and terminal 2 according to the first embodiment in the above system arrangement will be explained with reference to Fig. 2. The ~~described~~ specific arrangement of the image display 1 will be first described.

The paragraph starting at page 17, line 7 and ending at line 13 has been amended as follows.

Reference numeral 102 denotes a connection cable receiving connector to the terminal 2. The image display 1 ~~comprises~~ also includes the display modem 103. Reference numeral 104 denotes a timing generator for generating the control timing of the image display 1 under the control of the display CPU 101 in accordance with a regenerated SYNC signal or CLK signal from the display modem 103.

The paragraph starting at page 17, line 14 and ending at line 23 has been amended as follows.

Reference numeral 105 denotes a video signal processor for converting a 24-bit digital video signal decoded by the display modem 103 into a luminance image

signal which can be displayed on a display panel ~~110, and 106,~~ 110. Reference numeral 106 denotes a panel driver for driving the display panel 110 with a luminance signal from the video signal processor 105 at timing from the timing generator in accordance with driving conditions from the display CPU 101. The image display 1 comprises the display panel 110.

The paragraph starting at page 17, line 24 and ending at page 18, line 4 has been amended as follows.

Reference numeral 121 denotes a D/A converter for receiving a 16-bit digital audio signal from the display modem 103 at the reception timing from the timing generator and converting the received signal into a corresponding analog audio ~~signal, 122,~~ signal. Reference numeral 122 denotes an audio amplifier for amplifying an input analog signal from the D/A converter ~~121, and 123,~~ 121, and reference numeral 123 denotes a speaker.

The paragraph starting at page 18, line 10 and ending at line 20 has been amended as follows.

In the terminal 2, reference numeral 201 denotes a terminal CPU which controls the whole terminal 2, and ~~incorporates~~ includes a ROM storing a control sequence and the like shown in a flow chart (to be described later). The terminal CPU 201 controls a timing generator 204 and video signal processor 205 so as to transmit display data with a desired format via a terminal modem 203. The terminal CPU 201 similarly outputs control

command data to the image display 1 via the terminal modem 203. The terminal CPU 201 controls each unit via a control bus 251.

The paragraph starting at page 18, line 21 and ending at page 19, line 1 has been amended as follows.

Reference numeral 202 denotes a cable connector to the image display 1. The terminal 2 comprises the terminal modem 203, and terminal timing generator 204 for outputting a SYNC signal or CLK signal, a command timing signal representing command transmission timing, and the like ~~for the control of~~ controlling the terminal CPU 201 and to the terminal modem 203.

The paragraph starting at page 19, line 24 and ending at page 20, line 6 has been amended as follows.

Reference numeral 230 denotes a user interface (user I/F) for inputting various operations from the user. These operations include, e.g., display adjustment and detection of a remote controller input. The tuner 240 receives a terrestrial television program signals and satellite program signals. Reference numerals 221 to 223 denote input terminals extending from the supply sources (3 to 5); ~~241, 5~~. Reference numeral 241 denotes a terrestrial television broadcasting antenna input; and reference numeral 242, a satellite broadcasting antenna input.

The paragraph starting at page 20, line 12 and ending at line 15 has been amended as follows.

The ~~described~~ specific arrangements of the interface circuit portion and modem input/output portion between the terminal 2 and image display 1 will be explained with reference to Fig. 3.

The paragraph starting at page 20, line 16 and ending at page 21, line 3 has been amended as follows.

In the display modem 103, reference numeral 310 denotes an input/output driver circuit for receiving a signal through a cable in accordance with a communication direction control signal from the timing generator 104 and outputting a signal from a modulator ~~312, and 311, 312~~. Reference numeral 311 denotes a demodulator for demodulating a reception signal from the receiver of the input/output driver circuit 310, converting the demodulated serial demodulation data into 24-bit demodulated parallel data, and outputting the demodulated parallel data. The modulator 312 converts 16-bit parallel control data from the display CPU 101 into serial data, modulates the serial data, and outputs the modulated data to the driver of the input/output driver circuit 310.

The paragraph starting at page 21, line 4 and ending at line 15 has been amended as follows.

Reference numeral 313 denotes a demultiplexer for demultiplexing a demodulated signal in response to a timing control signal from the timing generator 104

and distributing the demultiplexed signal to each unit. The demultiplexer 313 outputs a regenerated SYNC signal and CLK signal to the timing generator 104, outputs a demultiplexed video signal to the video signal processor 105, outputs a demultiplexed acoustic signal to the D/A converter 121, and outputs demultiplexed command information to the display CPU 101. Reference numeral 314 denotes a driver circuit for outputting control data from the display CPU to the modulator 312.

The paragraph starting at page 21, line 16 and ending at page 22, line 4 has been amended as follows.

In the terminal modem 203, reference numeral 320 denotes an input/output driver circuit for receiving a signal through a cable in accordance with a communication direction control signal from the timing generator 204 and outputting a signal from a modulator ~~322, and 321, 322~~, 322. Reference numeral 321 denotes a demodulator for demodulating a reception signal from the receiver of the input/output driver circuit 320, converting the demodulated serial demodulation data into 16-bit demodulated parallel data, and outputting the demodulated parallel data to the terminal CPU 201 via a driver circuit 324. The modulator 322 converts a 24-bit parallel multiplexed signal from a multiplexer 323 into serial data, modulates the serial data, and outputs the modulated data to the driver of the input/output driver circuit 320.

The paragraph starting at page 25, line 21 and ending at page 26, line 3 has been amended as follows.

The input signal determination unit 430 receives each synchronization signal (SYNC signal), determines an input signal on the basis of the frequency and type (polarity, H/V-separated or mixed SYNC, and the like) of received synchronization signal, and informs the terminal CPU 201 of the determination results. The multiplexer 440 selects one of the input signals under the control of the terminal CPU 201, and outputs the selected signal to the video signal processor 205.

The paragraph starting at page 27, line 26 and ending at page 28, line 6 has been amended as follows.

The control of the first embodiment having the above arrangement will be described. The terminal 2 of this embodiment is adapted to control image displays of various specifications, as described above. For this reason, when the terminal 2 is powered on, power-on processing ~~of confirming~~ to confirm the specifications of a connected image display is first executed.

The paragraph starting at page 30, line 22 and ending at page 31, line 2 has been amended as follows.

In the above description, the terminal 2 stops access after trying ~~connection~~ to connect a predetermined number of times, and the image display 1 outputs a connection request. Alternatively, it is also possible that the terminal 2 always periodically accesses the image display 1, and the image display 1 does not spontaneously transmit any command always as a slave.

The paragraph starting at page 32, line 20 and ending at line 24 has been amended as follows.

The control of the terminal 2 will be described with reference to Fig. 8, When the terminal 2 is powered on, it ~~shifts to the control of Fig. 8 to execute~~ executes a power-on control sequence shown in Fig. 8 in accordance with a predetermined communication control sequence.

The paragraph starting at page 36, line 8 and ending at line 12 has been amended as follows.

If the terminal 2 receives adjustment data in step S17, the terminal 2 can grasp the specifications of the image display 1 from the adjustment data, and thus shifts to normal communication processing conforming to the specifications of the image display 1 in Fig. ~~7~~ 7.

The paragraph starting at page 36, line 13 and ending at line 18 has been amended as follows.

The control of the image display 1 will be described. When the image display 1 is powered on, it ~~shifts to the control of Fig. 9 to execute~~ executes a power-on control sequence (command reception control sequence) shown in Fig. 9, in accordance with a predetermined communication control sequence.

The paragraph starting at page 36, line 19 and ending at page 37, line 5 has been amended as follows.

In step S31 of Fig. 9, the image display 1 resets a timer for counting a communication response time. In step S32, the image display 1 checks whether ~~to have received~~ a command has been received. If NO in step S32, the image display 1 shifts to step S33 to check whether a predetermined time has elapsed. If NO in step S33, the image display 1 returns to step S32 to monitor reception of a command within the predetermined time. If the image display 1 does not receive any command from the terminal 2 even upon the lapse of the predetermined time, the image display 1 shifts to step S34 to transmit a connection request including the display ID to the terminal 2. Then, the image display 1 returns to step S31.

The paragraph starting at page 39, line 18 and ending at line 25 has been amended as follows.

This packet structure can be used not only in power-on control but also in transmission/reception of command data in normal communication. In the latter case, when a pair of an item number and corresponding item data are transmitted/received as data to be transmitted as text data, only a changed data item among data items is controlled to be transmitted/received, thereby reducing the amount of the transmission/reception data ~~amount can be reduced~~.

The paragraph starting at page 45, line 22 and ending at line 26 has been amended as follows.

Upon the completion of setup processing, the terminal 2 performs data communication with the image display 1 ~~in synchronism~~ synchronized with synchronization signals corresponding to generation of display data from the input I/F 220.

The paragraph starting at page 48, line 24 and ending at page 49, line 7 has been amended as follows.

The (number of display pixels + audio data to be multiplexed + necessary blanking period) in one horizontal period is calculated to determine the frequency of master CLK. Also in this case, if the transmission format suffices to be the same as the input signal format, the CLK signal of input information can be used without any change. However, if the blanking period in the input format is long, and the frequency is ~~wanted~~ to be decreased, an input CLK signal is changed, as needed.

The paragraph starting at page 60, line 11 and ending at line 16 has been amended as follows.

A detailed arrangement of the second embodiment shown in Fig. 26 or 27 is shown in Fig. 28. Fig. 28 is a block diagram showing the detailed arrangement of the second embodiment. Referring to Fig. 28, only a different arrangement from that of the first embodiment shown in Fig. 2 will be ~~mainly~~ explained.

The paragraph starting at page 64, line 2 and ending at line 10 has been amended as follows.

In the second embodiment, the dedicated modem and connection line are employed for the optional device 1100 in order to connect the optional device 1100. However, when the optional device is not one which need not emergently transmit/receive a large amount of information in real time, for example, when the optional device is a video printer, the dedicated modem and connection line need not be necessarily ~~adopted~~ adapted for the optional device 1100.

The paragraph starting at page 65, line 10 and ending at line 17 has been amended as follows.

More specifically, the image display 1500 comprises an external I/F 1510 which interfaces with an optional device 1100 and receives communication data from a display modem 103 to the optional device 1100. The terminal 1400 comprises an external I/F 1410 which interfaces with an optional device 1100 and receives communication data from a terminal modem 203 to the optional device 1100.

The paragraph starting at page 66, line 11 and ending at line 17 has been amended as follows.

In the example shown in Fig. 30, data of about 20 lines can be ensured during the period B to transmit 1-frame data in units of 20 lines at about 60 Hz within 1

sec. In divisionally transmitting data in this fashion, a line number is desirably added to the head of every transmission of 1-line data in order to determine transmitted data.

The paragraph starting at page 74, line 26 and ending at page 75, line 4 has been amended as follows.

~~On the other hand~~ In addition, the image display ~~newly comprises of the fifth embodiment includes~~ a driver circuit 150 in comparison with the image display 1 of the first embodiment shown in Fig. 2. The driver circuit 150 can be connected to another image display.

The paragraph starting at page 84, line 10 and ending at line 18 has been amended as follows.

If YES in step S164, the image display 1 advances to step S165 to check whether the program can be downloaded. If the program cannot be downloaded ~~due to~~ for any reason or the image display 1 does not comprise the program memory 160, the image display 1 determines that the program cannot be downloaded, and shifts to step S166 to send back a download disable response to the terminal 2. Then, the image display 1 returns to step S161.

The paragraph starting at page 94, line 1 and ending at line 9 has been amended as follows.

When the image display is a ~~thin~~ thin, wall-mounted monitor, its optical communication unit is disposed on the upper surface of the housing, and the optical communication unit of the terminal is disposed at a position near the ceiling where the optical communication unit faces the optical communication unit of the image display, as shown in Fig. 46. ~~Inputs/output~~ Input/output lines to/from the image display ~~is~~ are reduced to only a power cable and the like.

The paragraph starting at page 97, line 2 and ending at line 7 has been amended as follows.

This control ~~enables to eliminate~~ eliminates wasteful idle time and ~~to communicate~~ allows communication of a large amount of information. For example, necessary information can be efficiently transferred when the image display has a frame memory or the like, or is connected to an optional device and has a large amount of transfer data to the optional device.